



**UPPER PATUXENT RIVER WATERSHED RESTORATION ACTION STRATEGY (WRAS)
FORM 1 -- Catchment Information**

Subwatershed: Unnamed Tributary

Location of Catchment Centroid on ADC Map: Year: 2000 Page: 17 Grid: J8

State Plane Coordinates of Outfall Location: X: 1397866 Y: 481400

Closest Road Intersection to Outfall: Priest Bridge Road and Espey Court

Outfall SDI ID or Outfall Description: unknown

Objective: Demonstration / Impairment(s) (Sheet 1) _____

Drainage Area (ac): 3.7 Impervious Area (ac): 3.3

Percent Impervious: 89% Soil Recharge Factor (S): 0.38

WQ_v (required): 0.26 Re_v (required): 0.10

Predominant Land Use: commercial Mean Depth to Ground Water: unknown

Sanitary System: Septic Municipal Sewer Water Supply: On Site Well Public Water

Storm Drainage System Within Catchment

Piped: 100% Open Channels: 0%

Area Drained by System: 100%

Location in Catchment: Headwaters Middle Lower All

Open Channel Lining- Vegetation: 0% Riprap: 0% Concrete: 0% Other: 0%

Existing IMP(s) / BMP(s)

SDI ID: _____ Type (number from Sheets 4 & 5): _____ Age: _____

Closest Road Intersection to IMP / BMP: _____

Catchment Area Treated (ac) : _____ Percentage Catchment Treated: _____

WQ_v Provided: YES NO Re_v Provided: YES NO C_p Provided: YES NO

SDI ID: _____ Type (number from Sheets 4 & 5): _____ Age: _____

Closest Road Intersection to IMP / BMP: _____

Catchment Area Treated (ac) : _____ Percentage Catchment Treated: _____

WQ_v Provided: YES NO Re_v Provided: YES NO C_p Provided: YES NO

SDI ID: _____ Type (number from Sheets 4 & 5): _____ Age: _____

Closest Road Intersection to IMP / BMP: _____

Catchment Area Treated (ac) : _____ Percentage Catchment Treated: _____

WQ_v Provided: YES NO Re_v Provided: YES NO C_p Provided: YES NO

**UPPER PATUXENT RIVER WATERSHED RESTORATION ACTION STRATEGY (WRAS)
FORM 1 -- Catchment Information (concluded)**

CATCHMENT SUMMARY			
WQ _v (provided):	<u>0.146</u>	Re _v (provided) :	<u>0.084</u>
Area Treated (ac):	<u>3.19</u>	Impervious Area Treated (ac):	<u>2.89</u>
Area Treated (%):	<u>86%</u>	Impervious Area Treated (%):	<u>88%</u>

Comments

**UPPER PATUXENT RIVER WATERSHED RESTORATION ACTION STRATEGY (WRAS)
FORM 2 -- Site Information**

Site Name: _____ Address: 2145 and 2147 Priest Bridge Road

Site Owner: _____

State Plane Coordinates of Site Centroid: X: 1398004 Y: 481169 Date: 5/28/03

Personnel: PM Weather: rain, 60F deg

Area (ac): 3.6 Impervious Area (ac): 3.3

Percent Impervious: 90% Soil Recharge Factor (S): 0.38

WQ_v (required): 0.26 Re_v (required): 0.1

Property Area (ac): 6.3 Property Area Included in Site: 57%

Amount of Catchment Occupied by Site: 97%

Storm Drainage System Within Site

Piped: 100% Open Channels: 0% Area Drained by System: 100%

Open Channel Lining - Vegetation: 0% Riprap: 0% Concrete: 0% Other: 0%

Existing IMP(s) / BMP(s) (Identified on Page 1, FORM 1, Catchment Information)

SDI ID: _____ Condition: Excellent Good Average Fair Poor

SDI ID: _____ Condition: Excellent Good Average Fair Poor

SDI ID: _____ Condition: Excellent Good Average Fair Poor

Site Information

Type of Pavement: Bituminous Concrete Gravel Grid Pavers Other _____

Pavement Condition: Excellent Good Average Fair Poor

Underdrains can be easily directed to existing storm drains or daylighted: YES NO

Gutter/Exterior Downspouts Present: YES NO

Roof Connected Directly to Storm Drain: YES NO

Roof Drains onto Impervious Surface: YES NO

Obvious Existing Drainage Problems: Extensive Moderate Average Limited None

Steep Slopes Present: Extensive Moderate Average Limited None

Existing Landscaping: Extensive Moderate Average Limited None

Mature / Specimen Trees: Extensive Moderate Average Limited None

Area Available for Aboveground BMPs: Extensive Moderate Average Limited None

Existing Cover of Potential Aboveground BMP Locations: Grass Landscaped Gravel Other Pervious
 Pavement Other Impervious

**UPPER PATUXENT RIVER WATERSHED RESTORATION ACTION STRATEGY (WRAS)
FORM 2 -- Site Information (concluded)**

Commercial / Institutional

Islands Present: YES NO

Curb Present Around Island: YES NO

Ground Level of Island Relative to Pavement: Above Equal Below

Island Landscaping: Impervious Bare Earth Gravel Grass Mulch Herbaceous Plants Shrubs
 Trees (<2 in. DBH) Trees (2 - 6 in. DBH) Trees (>6 in. DBH)

Trees have sufficient spacing to allow IMPs YES NO

Parking area that can be directed to potential treatment area with little grading: 60%

SITE SUMMARY

WQ_v (provided) : 0.146

Re_v (provided): 0.084

Area Treated (ac) : 3.19

Impervious Area Treated (ac): 2.89

Area Treated (%) : 89%

Impervious Area Treated (%) : 88%

Photographs

No. <u>144</u>	Description: <u>looking south along east side of property</u>
No. <u>145</u>	Description: <u>looking west along north side of property</u>
No. <u>146</u>	Description: <u>looking west between buildings</u>
No. <u>147</u>	Description: <u>looking west along south side of property</u>
No. <u>148</u>	Description: <u>looking north along east side of property</u>
No. <u>149</u>	Description: <u>looking north along west side of property</u>
No. <u>150</u>	Description: <u>looking east along south side of property</u>
No. <u>151</u>	Description: <u>looking east between buildings</u>
No. <u>152</u>	Description: <u>looking south along west side of property</u>
No. <u>153</u>	Description: <u>looking east along north side of property</u>

Comments Parking is limited, which restricts paved area to be converted from parking. South side of 2147 is very restricted. Commercial between 2145 and 2147 is reserved for fleet parking and employees. There is a great deal of truck traffic.

**UPPER PATUXENT RIVER WATERSHED RESTORATION ACTION STRATEGY (WRAS)
FORM 2 -- Site Information**



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**UPPER PATUXENT RIVER WATERSHED RESTORATION ACTION STRATEGY (WRAS)
FORM 2 -- Site Information (concluded)**



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UPPER PATUXENT RIVER WATERSHED RESTORATION ACTION STRATEGY (WRAS) FORM 3 -- Opportunities and Constraints of Potential Management Practice

New LID IMP SWM BMP Retrofit New SWM BMP Type (Sheets 4 & 5): roof gardens

State Plane Coordinates of IMP / BMP Centroid: X: varies Y: varies

Sketch Location of Footprint (with Approximate Dimensions) and Drainage Boundary on Site Map

Identify all Impairments Addressed by Recommendation (Sheet 1): _____

Treatment Area Ownership: Transportation ROW Utility ROW County Other Government Private
 Other _____

Infrastructure / Structures / Buildings Impacted: YES NO

Limited Impact to Adjacent Properties: YES NO

Area Accessible for Construction: YES NO

Area Accessible for Maintenance: YES NO

Limited Permitting Issues: YES NO

Jurisdictional Wetlands Impacted: YES NO

Forest Retention Area Impacted: YES NO

Conservation Easement Impacted: YES NO

Utilities Present: None Natural Gas Electric Telephone Cable Water Sewer Other _____

Utilities Impacted: None Natural Gas Electric Telephone Cable Water Sewer Other _____

Impacted Utilities: Above Gound Underground

Critical Area Impacted: YES NO

Mature / Specimen Trees Impacted: YES NO

Existing Landscaping Impacted: YES NO

Underdrain Needed: YES NO

Underdrains Can Discharge: YES NO

Soils are Suitable: YES NO

Ground Water Table Level Suitable: YES NO

Estimate IMP / BMP drainage area included on site: 1.11 ac 100%

Retrofit of Existing SWM BMP

SDI ID: _____

Add Forebay: YES NO

Modify Outlet Structure: YES NO

Add Aquatic Bench: YES NO

Grade Bottom of Facility: YES NO

Plant Native Vegetation: YES NO

Provide Additional Storage Volume: YES NO

Excavation / Raise the Embankment: YES NO

**UPPER PATUXENT RIVER WATERSHED RESTORATION ACTION STRATEGY (WRAS)
FORM 3 -- Opportunities and Constraints of Potential Management Practice**



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UPPER PATUXENT RIVER WATERSHED RESTORATION ACTION STRATEGY (WRAS) FORM 3 -- Opportunities and Constraints of Potential Management Practice

New LID IMP SWM BMP Retrofit New SWM BMP Type (Sheets 4 & 5): 60

State Plane Coordinates of IMP / BMP Centroid: X: varies Y: varies

Sketch Location of Footprint (with Approximate Dimensions) and Drainage Boundary on Site Map

Identify all Impairments Addressed by Recommendation (Sheet 1): _____

Treatment Area Ownership: Transportation ROW Utility ROW County Other Government Private
 Other _____

Infrastructure / Structures / Buildings Impacted: YES NO

Limited Impact to Adjacent Properties: YES NO

Area Accessible for Construction: YES NO

Area Accessible for Maintenance: YES NO

Limited Permitting Issues: YES NO

Jurisdictional Wetlands Impacted: YES NO

Forest Retention Area Impacted: YES NO

Conservation Easement Impacted: YES NO

Utilities Present: None Natural Gas Electric Telephone Cable Water Sewer Other _____

Utilities Impacted: None Natural Gas Electric Telephone Cable Water Sewer Other _____

Impacted Utilities: Above Gound Underground

Critical Area Impacted: YES NO

Mature / Specimen Trees Impacted: YES NO

Existing Landscaping Impacted: YES NO

Underdrain Needed: YES NO

Underdrains Can Discharge: YES NO

Soils are Suitable: YES NO

Ground Water Table Level Suitable: YES NO

Estimate IMP / BMP drainage area included on site: 0.22 ac 100%

Retrofit of Existing SWM BMP

SDI ID: _____

Add Forebay: YES NO

Modify Outlet Structure: YES NO

Add Aquatic Bench: YES NO

Grade Bottom of Facility: YES NO

Plant Native Vegetation: YES NO

Provide Additional Storage Volume: YES NO

Excavation / Raise the Embankment: YES NO

**UPPER PATUXENT RIVER WATERSHED RESTORATION ACTION STRATEGY (WRAS)
FORM 3 -- Opportunities and Constraints of Potential Management Practice (concluded)**

IMP / BMP SUMMARY			
WQ _v (provided):	<u>0.017</u>	Re _v (provided):	<u>0.017</u>
Area Treated (ac):	<u>0.22</u>	Impervious Area Treated (ac):	<u>0.22</u>

Photographs

No. <u>171</u>	Description: <u>looking east</u>
No. <u>159</u>	Description: <u>looking west</u>
No. _____	Description: _____

Comments Parking spaces are at a premium. Access is needed to the loading docks.
Previous island is located between "2a" and "2b". The area cannot be used because of
electrical transformer and telephone junction.
Location of IMPs:
2a: X=1397909, Y=481213
2b: X=1398047, Y=481265
IMP/BMP Summary shows combined results for 2a and 2b.
IMP size = 9,360 sq ft

**UPPER PATUXENT RIVER WATERSHED RESTORATION ACTION STRATEGY (WRAS)
FORM 3 -- Opportunities and Constraints of Potential Management Practice**



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UPPER PATUXENT RIVER WATERSHED RESTORATION ACTION STRATEGY (WRAS) FORM 3 -- Opportunities and Constraints of Potential Management Practice

New LID IMP SWM BMP Retrofit New SWM BMP Type (Sheets 4 & 5): 38

State Plane Coordinates of IMP / BMP Centroid: X: 1397870 Y: 481414

Sketch Location of Footprint (with Approximate Dimensions) and Drainage Boundary on Site Map

Identify all Impairments Addressed by Recommendation (Sheet 1): _____

Treatment Area Ownership: Transportation ROW Utility ROW County Other Government Private
 Other _____

Infrastructure / Structures / Buildings Impacted: YES NO

Limited Impact to Adjacent Properties: YES NO

Area Accessible for Construction: YES NO

Area Accessible for Maintenance: YES NO

Limited Permitting Issues: YES NO

Jurisdictional Wetlands Impacted: YES NO

Forest Retention Area Impacted: YES NO

Conservation Easement Impacted: YES NO

Utilities Present: None Natural Gas Electric Telephone Cable Water Sewer Other _____

Utilities Impacted: None Natural Gas Electric Telephone Cable Water Sewer Other _____

Impacted Utilities: Above Gound Underground

Critical Area Impacted: YES NO

Mature / Specimen Trees Impacted: YES NO

Existing Landscaping Impacted: YES NO

Underdrain Needed: YES NO

Underdrains Can Discharge: YES NO

Soils are Suitable: YES NO

Ground Water Table Level Suitable: YES NO

Estimate IMP / BMP drainage area included on site: 0.24 ac 100%

Retrofit of Existing SWM BMP

SDI ID: _____

Add Forebay: YES NO

Modify Outlet Structure: YES NO

Add Aquatic Bench: YES NO

Grade Bottom of Facility: YES NO

Plant Native Vegetation: YES NO

Provide Additional Storage Volume: YES NO

Excavation / Raise the Embankment: YES NO

**UPPER PATUXENT RIVER WATERSHED RESTORATION ACTION STRATEGY (WRAS)
FORM 3 -- Opportunities and Constraints of Potential Management Practice (concluded)**

IMP / BMP SUMMARY			
WQ _v (provided):	<u>0.016</u>	Re _v (provided):	<u>0.016</u>
Area Treated (ac):	<u>0.24</u>	Impervious Area Treated (ac):	<u>0.18</u>

Photographs

No. <u>154</u>	Description: <u>looking north</u>
No. <u>155</u>	Description: <u>looking west</u>
No. _____	Description: _____

Comments Configure bioretention area to minimize disturbance to trees.
IMP size = 1,323 sq ft

**UPPER PATUXENT RIVER WATERSHED RESTORATION ACTION STRATEGY (WRAS)
FORM 3 -- Opportunities and Constraints of Potential Management Practice**



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UPPER PATUXENT RIVER WATERSHED RESTORATION ACTION STRATEGY (WRAS) FORM 3 -- Opportunities and Constraints of Potential Management Practice

New LID IMP SWM BMP Retrofit New SWM BMP Type (Sheets 4 & 5): 38

State Plane Coordinates of IMP / BMP Centroid: X: 1397740 Y: 481353

Sketch Location of Footprint (with Approximate Dimensions) and Drainage Boundary on Site Map

Identify all Impairments Addressed by Recommendation (Sheet 1): _____

Treatment Area Ownership: Transportation ROW Utility ROW County Other Government Private
 Other _____

Infrastructure / Structures / Buildings Impacted: YES NO

Limited Impact to Adjacent Properties: YES NO

Area Accessible for Construction: YES NO

Area Accessible for Maintenance: YES NO

Limited Permitting Issues: YES NO

Jurisdictional Wetlands Impacted: YES NO

Forest Retention Area Impacted: YES NO

Conservation Easement Impacted: YES NO

Utilities Present: None Natural Gas Electric Telephone Cable Water Sewer Other _____

Utilities Impacted: None Natural Gas Electric Telephone Cable Water Sewer Other _____

Impacted Utilities: Above Gound Underground

Critical Area Impacted: YES NO

Mature / Specimen Trees Impacted: YES NO

Existing Landscaping Impacted: YES NO

Underdrain Needed: YES NO

Underdrains Can Discharge: YES NO

Soils are Suitable: YES NO

Ground Water Table Level Suitable: YES NO

Estimate IMP / BMP drainage area included on site: 0.21 ac 100%

Retrofit of Existing SWM BMP

SDI ID: _____

Add Forebay: YES NO

Modify Outlet Structure: YES NO

Add Aquatic Bench: YES NO

Grade Bottom of Facility: YES NO

Plant Native Vegetation: YES NO

Provide Additional Storage Volume: YES NO

Excavation / Raise the Embankment: YES NO

**UPPER PATUXENT RIVER WATERSHED RESTORATION ACTION STRATEGY (WRAS)
FORM 3 -- Opportunities and Constraints of Potential Management Practice (concluded)**

IMP / BMP SUMMARY			
WQ _v (provided):	<u>0.014</u>	Re _v (provided):	<u>0.014</u>
Area Treated (ac):	<u>0.21</u>	Impervious Area Treated (ac):	<u>0.17</u>

Photographs

No. <u>174</u>	Description: <u>looking north</u>
No. <u>175</u>	Description: <u>looking east</u>
No. <u>176</u>	Description: <u>looking west</u>
No. _____	Description: _____

Comments Configure bioretention area to minimize disturbance to trees.
IMP size = 1,189 sq ft

**UPPER PATUXENT RIVER WATERSHED RESTORATION ACTION STRATEGY (WRAS)
FORM 3 -- Opportunities and Constraints of Potential Management Practice**



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UPPER PATUXENT RIVER WATERSHED RESTORATION ACTION STRATEGY (WRAS) FORM 3 -- Opportunities and Constraints of Potential Management Practice

New LID IMP SWM BMP Retrofit New SWM BMP Type (Sheets 4 & 5): 38

State Plane Coordinates of IMP / BMP Centroid: X: 1397772 Y: 481171

Sketch Location of Footprint (with Approximate Dimensions) and Drainage Boundary on Site Map

Identify all Impairments Addressed by Recommendation (Sheet 1): _____

Treatment Area Ownership: Transportation ROW Utility ROW County Other Government Private
 Other _____

Infrastructure / Structures / Buildings Impacted: YES NO

Limited Impact to Adjacent Properties: YES NO

Area Accessible for Construction: YES NO

Area Accessible for Maintenance: YES NO

Limited Permitting Issues: YES NO

Jurisdictional Wetlands Impacted: YES NO

Forest Retention Area Impacted: YES NO

Conservation Easement Impacted: YES NO

Utilities Present: None Natural Gas Electric Telephone Cable Water Sewer Other _____

Utilities Impacted: None Natural Gas Electric Telephone Cable Water Sewer Other _____

Impacted Utilities: Above Gound Underground

Critical Area Impacted: YES NO

Mature / Specimen Trees Impacted: YES NO

Existing Landscaping Impacted: YES NO

Underdrain Needed: YES NO

Underdrains Can Discharge: YES NO

Soils are Suitable: YES NO

Ground Water Table Level Suitable: YES NO

Estimate IMP / BMP drainage area included on site: 0.16 ac 100%

Retrofit of Existing SWM BMP

SDI ID: _____

Add Forebay: YES NO

Modify Outlet Structure: YES NO

Add Aquatic Bench: YES NO

Grade Bottom of Facility: YES NO

Plant Native Vegetation: YES NO

Provide Additional Storage Volume: YES NO

Excavation / Raise the Embankment: YES NO

**UPPER PATUXENT RIVER WATERSHED RESTORATION ACTION STRATEGY (WRAS)
FORM 3 -- Opportunities and Constraints of Potential Management Practice (concluded)**

IMP / BMP SUMMARY			
WQ _v (provided):	<u>0.011</u>	Re _v (provided):	<u>0.011</u>
Area Treated (ac):	<u>0.14</u>	Impervious Area Treated (ac):	<u>0.14</u>

Photographs

No. <u>172</u>	Description: <u>looking north</u>
No. <u>173</u>	Description: <u>looking west</u>
No. _____	Description: _____

Comments Area to be converted is used as dumpster sotrage and is marked off so as not to be used for parking. Maximum bioretention area is equivalent to 5 parking spots.
Bioretention area provides 87% treatment as sized.
IMP size = 960 sq ft

**UPPER PATUXENT RIVER WATERSHED RESTORATION ACTION STRATEGY (WRAS)
FORM 3 -- Opportunities and Constraints of Potential Management Practice**



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UPPER PATUXENT RIVER WATERSHED RESTORATION ACTION STRATEGY (WRAS) FORM 3 -- Opportunities and Constraints of Potential Management Practice

New LID IMP SWM BMP Retrofit New SWM BMP Type (Sheets 4 & 5): 38

State Plane Coordinates of IMP / BMP Centroid: X: 1397817 Y: 481048

Sketch Location of Footprint (with Approximate Dimensions) and Drainage Boundary on Site Map

Identify all Impairments Addressed by Recommendation (Sheet 1): _____

Treatment Area Ownership: Transportation ROW Utility ROW County Other Government Private
 Other _____

Infrastructure / Structures / Buildings Impacted: YES NO

Limited Impact to Adjacent Properties: YES NO

Area Accessible for Construction: YES NO

Area Accessible for Maintenance: YES NO

Limited Permitting Issues: YES NO

Jurisdictional Wetlands Impacted: YES NO

Forest Retention Area Impacted: YES NO

Conservation Easement Impacted: YES NO

Utilities Present: None Natural Gas Electric Telephone Cable Water Sewer Other _____

Utilities Impacted: None Natural Gas Electric Telephone Cable Water Sewer Other _____

Impacted Utilities: Above Gound Underground

Critical Area Impacted: YES NO

Mature / Specimen Trees Impacted: YES NO

Existing Landscaping Impacted: YES NO

Underdrain Needed: YES NO

Underdrains Can Discharge: YES NO

Soils are Suitable: YES NO

Ground Water Table Level Suitable: YES NO

Estimate IMP / BMP drainage area included on site: 0.08 ac 100%

Retrofit of Existing SWM BMP

SDI ID: _____

Add Forebay: YES NO

Modify Outlet Structure: YES NO

Add Aquatic Bench: YES NO

Grade Bottom of Facility: YES NO

Plant Native Vegetation: YES NO

Provide Additional Storage Volume: YES NO

Excavation / Raise the Embankment: YES NO

**UPPER PATUXENT RIVER WATERSHED RESTORATION ACTION STRATEGY (WRAS)
FORM 3 -- Opportunities and Constraints of Potential Management Practice (concluded)**

IMP / BMP SUMMARY			
WQ _v (provided):	<u>0.008</u>	Re _v (provided):	<u>0.008</u>
Area Treated (ac):	<u>0.08</u>	Impervious Area Treated (ac):	<u>0.08</u>

Photographs

No. <u>169</u>	Description: <u>looking north</u>
No. <u>170</u>	Description: <u>looking west</u>
No. _____	Description: _____

Comments Configure bioretention area to minimize disturbance to existing trees and their root systems. One parking area could be converted if needed.
Bioretention area provides 140% treatment as sized.
IMP size = 723 sq ft

**UPPER PATUXENT RIVER WATERSHED RESTORATION ACTION STRATEGY (WRAS)
FORM 3 -- Opportunities and Constraints of Potential Management Practice**



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UPPER PATUXENT RIVER WATERSHED RESTORATION ACTION STRATEGY (WRAS) FORM 3 -- Opportunities and Constraints of Potential Management Practice

New LID IMP SWM BMP Retrofit New SWM BMP Type (Sheets 4 & 5): 38

State Plane Coordinates of IMP / BMP Centroid: X: 1397946 Y: 481028

Sketch Location of Footprint (with Approximate Dimensions) and Drainage Boundary on Site Map

Identify all Impairments Addressed by Recommendation (Sheet 1): _____

Treatment Area Ownership: Transportation ROW Utility ROW County Other Government Private
 Other _____

Infrastructure / Structures / Buildings Impacted: YES NO

Limited Impact to Adjacent Properties: YES NO

Area Accessible for Construction: YES NO

Area Accessible for Maintenance: YES NO

Limited Permitting Issues: YES NO

Jurisdictional Wetlands Impacted: YES NO

Forest Retention Area Impacted: YES NO

Conservation Easement Impacted: YES NO

Utilities Present: None Natural Gas Electric Telephone Cable Water Sewer Other _____

Utilities Impacted: None Natural Gas Electric Telephone Cable Water Sewer Other _____

Impacted Utilities: Above Gound Underground

Critical Area Impacted: YES NO

Mature / Specimen Trees Impacted: YES NO

Existing Landscaping Impacted: YES NO

Underdrain Needed: YES NO

Underdrains Can Discharge: YES NO

Soils are Suitable: YES NO

Ground Water Table Level Suitable: YES NO

Estimate IMP / BMP drainage area included on site: 0.17 ac 100%

Retrofit of Existing SWM BMP

SDI ID: _____

Add Forebay: YES NO

Modify Outlet Structure: YES NO

Add Aquatic Bench: YES NO

Grade Bottom of Facility: YES NO

Plant Native Vegetation: YES NO

Provide Additional Storage Volume: YES NO

Excavation / Raise the Embankment: YES NO

**UPPER PATUXENT RIVER WATERSHED RESTORATION ACTION STRATEGY (WRAS)
FORM 3 -- Opportunities and Constraints of Potential Management Practice (concluded)**

IMP / BMP SUMMARY			
WQ _v (provided):	<u>0.014</u>	Re _v (provided):	<u>0.005</u>
Area Treated (ac):	<u>0.17</u>	Impervious Area Treated (ac):	<u>0.17</u>

Photographs

No. <u>167</u>	Description: <u>looking west</u>
No. <u>168</u>	Description: <u>looking east</u>
No. _____	Description: _____

Comments Configure bioretention area to minimize disturbance to trees.
IMP size = 1,189 sq ft

**UPPER PATUXENT RIVER WATERSHED RESTORATION ACTION STRATEGY (WRAS)
FORM 3 -- Opportunities and Constraints of Potential Management Practice**



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UPPER PATUXENT RIVER WATERSHED RESTORATION ACTION STRATEGY (WRAS) FORM 3 -- Opportunities and Constraints of Potential Management Practice

New LID IMP SWM BMP Retrofit New SWM BMP Type (Sheets 4 & 5): 41

State Plane Coordinates of IMP / BMP Centroid: X: 1398152 Y: 481178

Sketch Location of Footprint (with Approximate Dimensions) and Drainage Boundary on Site Map

Identify all Impairments Addressed by Recommendation (Sheet 1): _____

Treatment Area Ownership: Transportation ROW Utility ROW County Other Government Private
 Other _____

Infrastructure / Structures / Buildings Impacted: YES NO

Limited Impact to Adjacent Properties: YES NO

Area Accessible for Construction: YES NO

Area Accessible for Maintenance: YES NO

Limited Permitting Issues: YES NO

Jurisdictional Wetlands Impacted: YES NO

Forest Retention Area Impacted: YES NO

Conservation Easement Impacted: YES NO

Utilities Present: None Natural Gas Electric Telephone Cable Water Sewer Other _____

Utilities Impacted: None Natural Gas Electric Telephone Cable Water Sewer Other _____

Impacted Utilities: Above Gound Underground

Critical Area Impacted: YES NO

Mature / Specimen Trees Impacted: YES NO

Existing Landscaping Impacted: YES NO

Underdrain Needed: YES NO

Underdrains Can Discharge: YES NO

Soils are Suitable: YES NO

Ground Water Table Level Suitable: YES NO

Estimate IMP / BMP drainage area included on site: 0.18 ac 70%

Retrofit of Existing SWM BMP

SDI ID: _____

Add Forebay: YES NO

Modify Outlet Structure: YES NO

Add Aquatic Bench: YES NO

Grade Bottom of Facility: YES NO

Plant Native Vegetation: YES NO

Provide Additional Storage Volume: YES NO

Excavation / Raise the Embankment: YES NO

**UPPER PATUXENT RIVER WATERSHED RESTORATION ACTION STRATEGY (WRAS)
FORM 3 -- Opportunities and Constraints of Potential Management Practice (concluded)**

IMP / BMP SUMMARY			
WQ _v (provided):	<u>0.015</u>	Re _v (provided):	<u>0.000</u>
Area Treated (ac):	<u>0.25</u>	Impervious Area Treated (ac):	<u>0.19</u>

Photographs

No. <u>161</u>	Description: <u>looking east</u>
No. <u>162</u>	Description: <u>looking north</u>
No. _____	Description: _____

Comments Island cannot be used for bioretention because Site 31 is higher.
IMP/BMP Summary assumes 100% treatment from Filterra (to be sized).

**UPPER PATUXENT RIVER WATERSHED RESTORATION ACTION STRATEGY (WRAS)
FORM 3 -- Opportunities and Constraints of Potential Management Practice**



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UPPER PATUXENT RIVER WATERSHED RESTORATION ACTION STRATEGY (WRAS) FORM 3 -- Opportunities and Constraints of Potential Management Practice

New LID IMP SWM BMP Retrofit New SWM BMP Type (Sheets 4 & 5): 41

State Plane Coordinates of IMP / BMP Centroid: X: 1398105 Y: 481305

Sketch Location of Footprint (with Approximate Dimensions) and Drainage Boundary on Site Map

Identify all Impairments Addressed by Recommendation (Sheet 1): _____

Treatment Area Ownership: Transportation ROW Utility ROW County Other Government Private
 Other _____

Infrastructure / Structures / Buildings Impacted: YES NO

Limited Impact to Adjacent Properties: YES NO

Area Accessible for Construction: YES NO

Area Accessible for Maintenance: YES NO

Limited Permitting Issues: YES NO

Jurisdictional Wetlands Impacted: YES NO

Forest Retention Area Impacted: YES NO

Conservation Easement Impacted: YES NO

Utilities Present: None Natural Gas Electric Telephone Cable Water Sewer Other _____

Utilities Impacted: None Natural Gas Electric Telephone Cable Water Sewer Other _____

Impacted Utilities: Above Gound Underground

Critical Area Impacted: YES NO

Mature / Specimen Trees Impacted: YES NO

Existing Landscaping Impacted: YES NO

Underdrain Needed: YES NO

Underdrains Can Discharge: YES NO

Soils are Suitable: YES NO

Ground Water Table Level Suitable: YES NO

Estimate IMP / BMP drainage area included on site: 0.29 ac 100%

Retrofit of Existing SWM BMP

SDI ID: _____

Add Forebay: YES NO

Modify Outlet Structure: YES NO

Add Aquatic Bench: YES NO

Grade Bottom of Facility: YES NO

Plant Native Vegetation: YES NO

Provide Additional Storage Volume: YES NO

Excavation / Raise the Embankment: YES NO

**UPPER PATUXENT RIVER WATERSHED RESTORATION ACTION STRATEGY (WRAS)
FORM 3 -- Opportunities and Constraints of Potential Management Practice (concluded)**

IMP / BMP SUMMARY			
WQ _v (provided):	<u>0.017</u>	Re _v (provided):	<u>0.000</u>
Area Treated (ac):	<u>0.29</u>	Impervious Area Treated (ac):	<u>0.21</u>

Photographs

No. <u>163</u>	Description: <u>looking east</u>
No. <u>164</u>	Description: <u>looking south</u>
No. _____	Description: _____

Comments Island cannot be used for bioretention because Site 31 is higher.
IMP/BMP Summary assumes 100% treatment from Filterra (to be sized).

**UPPER PATUXENT RIVER WATERSHED RESTORATION ACTION STRATEGY (WRAS)
FORM 3 -- Opportunities and Constraints of Potential Management Practice**



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UPPER PATUXENT RIVER WATERSHED RESTORATION ACTION STRATEGY (WRAS) FORM 3 -- Opportunities and Constraints of Potential Management Practice

New LID IMP SWM BMP Retrofit New SWM BMP Type (Sheets 4 & 5): 38

State Plane Coordinates of IMP / BMP Centroid: X: 1397994 Y: 481451

Sketch Location of Footprint (with Approximate Dimensions) and Drainage Boundary on Site Map

Identify all Impairments Addressed by Recommendation (Sheet 1): _____

Treatment Area Ownership: Transportation ROW Utility ROW County Other Government Private
 Other _____

Infrastructure / Structures / Buildings Impacted: YES NO

Limited Impact to Adjacent Properties: YES NO

Area Accessible for Construction: YES NO

Area Accessible for Maintenance: YES NO

Limited Permitting Issues: YES NO

Jurisdictional Wetlands Impacted: YES NO

Forest Retention Area Impacted: YES NO

Conservation Easement Impacted: YES NO

Utilities Present: None Natural Gas Electric Telephone Cable Water Sewer Other _____

Utilities Impacted: None Natural Gas Electric Telephone Cable Water Sewer Other _____

Impacted Utilities: Above Gound Underground

Critical Area Impacted: YES NO

Mature / Specimen Trees Impacted: YES NO

Existing Landscaping Impacted: YES NO

Underdrain Needed: YES NO

Underdrains Can Discharge: YES NO

Soils are Suitable: YES NO

Ground Water Table Level Suitable: YES NO

Estimate IMP / BMP drainage area included on site: 0.18 ac 100%

Retrofit of Existing SWM BMP

SDI ID: _____

Add Forebay: YES NO

Modify Outlet Structure: YES NO

Add Aquatic Bench: YES NO

Grade Bottom of Facility: YES NO

Plant Native Vegetation: YES NO

Provide Additional Storage Volume: YES NO

Excavation / Raise the Embankment: YES NO

**UPPER PATUXENT RIVER WATERSHED RESTORATION ACTION STRATEGY (WRAS)
FORM 3 -- Opportunities and Constraints of Potential Management Practice (concluded)**

IMP / BMP SUMMARY			
WQ _v (provided):	<u>0.010</u>	Re _v (provided):	<u>0.004</u>
Area Treated (ac):	<u>0.18</u>	Impervious Area Treated (ac):	<u>0.12</u>

Photographs

No. <u>156</u>	Description: <u>looking east</u>
No. <u>157</u>	Description: <u>looking north</u>
No. _____	Description: _____

Comments Configure bioretention area to minimize disturbance to trees.
IMP size = 849 sq ft

**UPPER PATUXENT RIVER WATERSHED RESTORATION ACTION STRATEGY (WRAS)
FORM 3 -- Opportunities and Constraints of Potential Management Practice**



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UPPER PATUXENT RIVER WATERSHED RESTORATION ACTION STRATEGY (WRAS) FORM 3 -- Opportunities and Constraints of Potential Management Practice

New LID IMP SWM BMP Retrofit New SWM BMP Type (Sheets 4 & 5): 38

State Plane Coordinates of IMP / BMP Centroid: X: 1398091 Y: 481079

Sketch Location of Footprint (with Approximate Dimensions) and Drainage Boundary on Site Map

Identify all Impairments Addressed by Recommendation (Sheet 1): _____

Treatment Area Ownership: Transportation ROW Utility ROW County Other Government Private
 Other _____

Infrastructure / Structures / Buildings Impacted: YES NO

Limited Impact to Adjacent Properties: YES NO

Area Accessible for Construction: YES NO

Area Accessible for Maintenance: YES NO

Limited Permitting Issues: YES NO

Jurisdictional Wetlands Impacted: YES NO

Forest Retention Area Impacted: YES NO

Conservation Easement Impacted: YES NO

Utilities Present: None Natural Gas Electric Telephone Cable Water Sewer Other _____

Utilities Impacted: None Natural Gas Electric Telephone Cable Water Sewer Other _____

Impacted Utilities: Above Gound Underground

Critical Area Impacted: YES NO

Mature / Specimen Trees Impacted: YES NO

Existing Landscaping Impacted: YES NO

Underdrain Needed: YES NO

Underdrains Can Discharge: YES NO

Soils are Suitable: YES NO

Ground Water Table Level Suitable: YES NO

Estimate IMP / BMP drainage area included on site: 0.3 ac 100%

Retrofit of Existing SWM BMP

SDI ID: _____

Add Forebay: YES NO

Modify Outlet Structure: YES NO

Add Aquatic Bench: YES NO

Grade Bottom of Facility: YES NO

Plant Native Vegetation: YES NO

Provide Additional Storage Volume: YES NO

Excavation / Raise the Embankment: YES NO

**UPPER PATUXENT RIVER WATERSHED RESTORATION ACTION STRATEGY (WRAS)
FORM 3 -- Opportunities and Constraints of Potential Management Practice (concluded)**

IMP / BMP SUMMARY			
WQ _v (provided):	<u>0.024</u>	Re _v (provided):	<u>0.009</u>
Area Treated (ac):	<u>0.30</u>	Impervious Area Treated (ac):	<u>0.30</u>

Photographs

No. <u>165</u>	Description: <u>looking west</u>
No. <u>166</u>	Description: <u>looking east</u>
No. _____	Description: _____

Comments Configure bioretention area to minimize disturbance to trees.
IMP size = 2,0592 sq ft

**UPPER PATUXENT RIVER WATERSHED RESTORATION ACTION STRATEGY (WRAS)
FORM 3 -- Opportunities and Constraints of Potential Management Practice**



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